

CLAIMS:

1. An aluminum electrophotoconductive tube obtained by gas-slip casting of an aluminum alloy.
2. The tube of Claim 1, wherein gas-slip casting includes forming a billet and at least one of extruding or drawing the billet to form the tube.
3. The tube of Claim 1, wherein the total number of substrate defects of an optical photoconductor drum obtained by coating the tube with a photogeneration layer and a charge transport layer is less than 0.5% based on a visual inspection of the optical photoconductor drum.
4. The tube of Claim 1, wherein the aluminum alloy is a 3000 aluminum alloy series.
5. The tube of Claim 1, wherein the aluminum alloy is a 6000 aluminum alloy series.
6. The tube of Claim 1, wherein the aluminum alloy is an E3S or A40 aluminum alloy.
7. The tube of Claim 1, wherein gas-slip casting is carried out without filtering.
8. The tube of Claim 1, wherein the aluminum alloy further comprises a grain refiner.
9. The tube of Claim 1, wherein the aluminum alloy further comprises titanium boride.
10. The tube of Claim 1, having an H₂ porosity of 0.2 ml/100 grams or less.
11. The tube of Claim 1, wherein the surface of the tube is substantially free of a weld line visible by the naked eye or by optical microscopy.

12. The tube of Claim 1, wherein the tube comprises an aluminum alloy comprising one or more of a recycled aluminum alloy, a regrind from an aluminum recycler, or scrap aluminum from a gas-slip process.

13. The tube of Claim 1, wherein the gas-slip casting is carried out with an apparatus for continuous or semi-continuous casting of aluminum having an outlet structure oriented to emit a cooling fluid skirt projecting in a direction parallel to an internal peripheral surface of a die to form a gas cushion between the skirt of the cooling fluid and a peripheral surface of said solidified aluminum tube to form an aluminum tube.

14. The tube of Claim 13, wherein the surface of the tube is substantially free of a weld line visible by the naked eye or by optical microscopy.

15. The tube of Claim 13, wherein the total number of substrate defects of an optical photoconductor drum obtained by coating the tube with a photogeneration layer and a charge transport layer is less than 0.5% based on a visual inspection of the optical photoconductor drum.

16. The tube of Claim 13, wherein the aluminum alloy is a 3000 aluminum alloy series.

17. The tube of Claim 13, wherein the aluminum alloy is a 6000 aluminum alloy series.

18. The tube of Claim 13, wherein the aluminum alloy is an E3S or an A40 aluminum alloy.

19. The tube of Claim 13, wherein gas-slip casting is carried out without filtering.

20. The tube of Claim 13, wherein the aluminum alloy further comprises a grain refiner.

21. The tube of Claim 13, wherein the aluminum alloy further comprises a titanium boride.

22. The tube of Claim 13, having a H₂ porosity of 0.2 ml/100 grams or less.
23. The tube of Claim 13, wherein the surface of the tube is substantially free of a weld line visible by the naked eye or by optical microscopy.
24. An optical photoconductor drum comprising
the electrophotoconductive tube of Claim 1,
at least one charge generation layer, and
at least one charge transport layer;
wherein the charge generation and charge transport layers are present on the external surface of the electrophotoconductive tube.
25. The optical photoconductor drum of Claim 24, further comprising an undercoat layer under the charge generation and charge transport layers.
26. The optical photoconductor drum of Claim 24, wherein the electrophotoconductive tube is anodized.
27. The optical photoconductor drum of Claim 24, wherein the surface of the tube is substantially free of a weld line visible by the naked eye or by optical microscopy.
28. The optical photoconductor drum of Claim 24, wherein the aluminum alloy is a 3000 aluminum alloy series.
29. The optical photoconductor drum of Claim 24, wherein the aluminum alloy is a 6000 aluminum alloy series.
30. The optical photoconductor drum of Claim 24, wherein the aluminum alloy is an E3S or an A40 aluminum alloy.
31. The optical photoconductor drum of Claim 24, wherein gas-slip casting is carried out without filtering the aluminum alloy.

32. The optical photoconductor drum of Claim 24, wherein the aluminum further comprises a grain refiner.

33. The optical photoconductor drum of Claim 24, wherein the aluminum further comprises a titanium boride.

34. The optical photoconductor drum of Claim 24, wherein the tube comprises an aluminum alloy comprising one or more of a recycled aluminum alloy, a regrind from an aluminum recycler, or scrap aluminum from a gas-slip process.